

## INTERNATIONAL SEARCH REPORT

National Application No

/GB2005/001099

A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 7 A61K31/505 C07D405/06 C07D309/10 C07D309/30

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/232989 A1 (ANTONS STEFAN ET AL) 18 December 2003 (2003-12-18) claim 3	5
A	page 4, paragraph 25 - paragraph 33	
A	WO 01/85702 A (ASTRAZENECA AB; ASTRAZENECA UK LIMITED; HILL, STEVEN, JAMES; LENZ, EVA) 15 November 2001 (2001-11-15) cited in the application the whole document	1, 4
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

5 September 2005

Date of mailing of the international search report

16. 09. 05

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

national Application No

T/GB2005/001099

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>BARTH M ET AL: "TOWARDS A NEW TYPE OF HMG-COA REDUCTASE INHIBITOR" TETRAHEDRON, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 46, no. 19, 1990, pages 6731-6740, XP000942264 ISSN: 0040-4020 scheme 3 examples 4,11</p>	3
X	<p>DURAND-REVILLE, THOMAS ET AL: "Highly Selective Entry to the Azadirachtin Skeleton via a Claisen Rearrangement/Radical Cyclization Sequence" ORGANIC LETTERS , 4(22), 3847-3850 CODEN: ORLEF7; ISSN: 1523-7060, 2002, XP002343425 scheme 2</p>	3
X	<p>YANG, YUH LIN ET AL: "Mevinic acids and analogs: preparation of a key chiral intermediate" TETRAHEDRON LETTERS , 23(42), 4305-8 CODEN: TELEAY; ISSN: 0040-4039, 1982, XP002343426 scheme I</p>	3
X	<p>ROSEN T ET AL: "SYNTHETIC AND BIOLOGICAL STUDIES OF COMPACTIN AND RELATED COMPOUNDSSYNTHESIS OF THE LACTONE MOIETY OF COMPACTIN" JOURNAL OF ORGANIC CHEMISTRY, AMERICAN CHEMICAL SOCIETY. EASTON, US, vol. 49, 19 October 1994 (1994-10-19), pages 3994-4003, XP000996454 ISSN: 0022-3263 scheme V</p>	3
X	<p>BECK G ET AL: "Synthesis and Biological Activity of New HMG-CoA Reductase Inhibitors. 1. Lactones of Pyridine- and Pyrimidine-Substituted 3,5-Dihydroxy-6-heptenoic (-heptanoic) Acids" JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 33, no. 1, 1990, pages 52-60, XP002324910 ISSN: 0022-2623 page 54, right column, first paragraph</p>	3
X	<p>US 4 677 211 A (JEWELL, JR. ET AL) 30 June 1987 (1987-06-30) column 7, reaction scheme B</p>	3
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## INTERNATIONAL SEARCH REPORT

ational Application No

/GB2005/001099

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 625 039 A (JEWELL, JR. ET AL) 25 November 1986 (1986-11-25) column 4, reaction scheme B -----	3
X	US 4 474 971 A (WAREING ET AL) 2 October 1984 (1984-10-02) Column 4: reaction scheme B; lines 28-33 -----	3
X,P	PATERSON, IAN ET AL: "Phorboxazole B synthetic studies: construction of C(1-32) and C(33-46) subtargets" ORGANIC & BIOMOLECULAR CHEMISTRY, 2(20), 3026-3038 CODEN: OBCRAK; ISSN: 1477-0520, 2004, XP002343427 scheme 8 -----	3
E	WO 2005/047276 A (RATIOPHARM GMBH; TARAROV, VITALI; KOENIG, GERD; BOERNER, ARMIN) 26 May 2005 (2005-05-26) claim 4 -----	1-4
E	WO 2005/040134 A (RANBAXY LABORATORIES LIMITED; KUMAR, YATENDRA; RAFEEQ, MOHAMMAD; DE, S) 6 May 2005 (2005-05-06) page 5, formula III -----	5
E	WO 2005/030758 A (BRISTOL-MYERS SQUIBB COMPANY; AHMAD, SALEEM; ROBL, JEFFREY, A; NGU, KH) 7 April 2005 (2005-04-07) example 31 claim 1 -----	5

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2005/001099

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,4,5

Present compounds of formula 5 and processes for their synthesis comprising the step of coupling present compounds of formula 3 and 4.

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2. claim: 2

Process for the synthesis of present compounds of formula 2 from present compounds of formula 1.

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3. claim: 3

Process for the synthesis of present compounds of formula 3 from present compounds of formula 2.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

GB2005/001099

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003232989 A1	18-12-2003	DE 10216967 A1 EP 1354865 A1 JP 2003335756 A	13-11-2003 22-10-2003 28-11-2003
WO 0185702 A	15-11-2001	AU 5493701 A CA 2404987 A1 EP 1286971 A1 WO 0185702 A1 JP 2003532715 T US 2004006097 A1	20-11-2001 15-11-2001 05-03-2003 15-11-2001 05-11-2003 08-01-2004
US 4677211 A	30-06-1987	NONE	
US 4625039 A	25-11-1986	NONE	
US 4474971 A	02-10-1984	NONE	
WO 2005047276 A	26-05-2005	DE 10352659 A1 WO 2005047276 A2	16-06-2005 26-05-2005
WO 2005040134 A	06-05-2005	WO 2005040134 A1	06-05-2005
WO 2005030758 A	07-04-2005	US 2005085497 A1 WO 2005030758 A1	21-04-2005 07-04-2005